



JOHN DEERE

**ENGINE PERFORMANCE CURVE**

Rating: Gross Power  
 Application: Generator  
 1800 RPM (60 Hz)

**PowerTech 6.8L Engine**  
 Model: **6068HF475**

**286 hp (213 kW) Prime**  
**314 hp (234 kW) Standby**

[See Option Code Tables]

Nominal Engine Power @ 1800 RPM			
Prime		Standby	
HP	kW	HP	kW
286	213	314	234

Generator Efficiency %	Fan Power		Power Factor	Prime Rating		Standby Rating <sup>1</sup>		4 sec Standby Block Load Capability
	hp	kW		kW	kVA	kW	kVA	
88-92	15.7	11.7	0.8	177-185	221-231	196-205	245-256	80%

Note 1: Based on nominal engine power. Derate 20% for 100% block load capability.

Air Intake Restriction ..... 12 in.H<sub>2</sub>O (3 kPa)  
 Exhaust Back Pressure ..... 30 in.H<sub>2</sub>O (7.5 kPa)

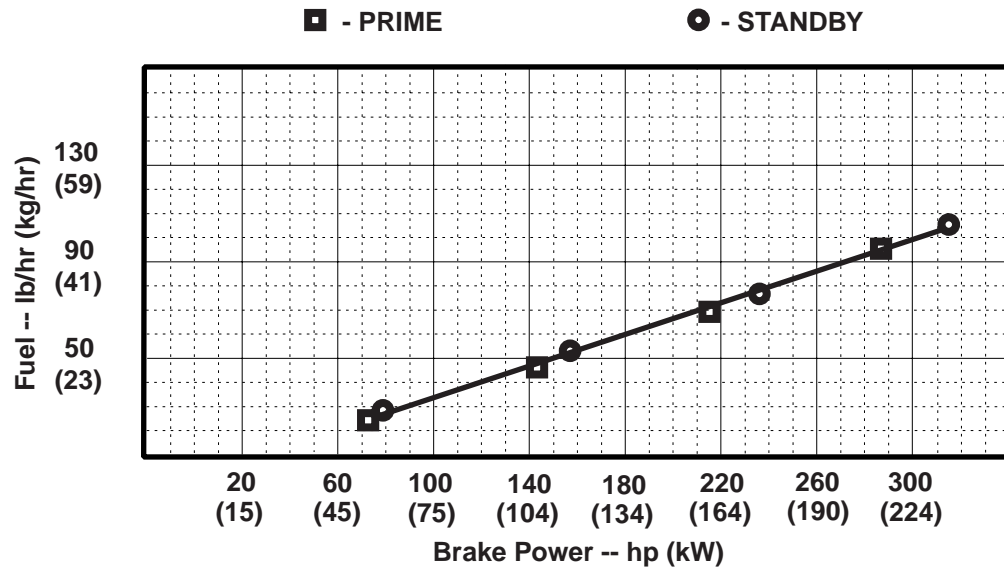
Gross power guaranteed within + or - 5% at SAE J1995 and ISO 3046 conditions:

- 77 °F (25 °C) air inlet temperature
- 29.31 in.Hg (99 kPa) barometer
- 104 °F (40 °C) fuel inlet temperature
- 0.853 fuel specific gravity @ 60 °F (15.5 °C)

Conversion factors:

- Power: kW = hp x 0.746
- Fuel: 1 gal = 7.1 lb, 1 L = 0.85 kg
- Torque: N•m = lb-ft x 1.356

All values are from currently available data and are subject to change without notice.



Notes:

Tier-2 Emission Certifications:	Certified by:
CARB; EPA	<i>Brian L. Carlson</i>
Ref: Engine Emission Label	30 Aug 04

\* Revised Data  
 Curve 6068HF4751800314 ..... Sheet 1 of 2  
 August 2004

## Engine Specification Data

### General Data

Model ..... 6068HF475  
 Number of Cylinders ..... 6  
 Bore and Stroke--in. (mm)..... 4.19 x 5.00 (106 x 127)  
 Displacement--in.<sup>3</sup> (L).....415 (6.8)  
 Compression Ratio ..... 17.0:1  
 Valves per Cylinder--Intake/Exhaust..... 2 / 2  
 Firing Order..... 1-5-3-6-2-4  
 Combustion System..... Direct Injection  
 Engine Type ..... In-line, 4-Cycle  
 Aspiration ..... Turbocharged  
 Charge Air Cooling System..... Air-to-Air  
 Engine Crankcase Vent System ..... Open  
 Maximum Crankcase Pressure--in.H<sub>2</sub>O (kPa) .....2 (0.5)

### Physical Data

Length--in. (mm) .....45.7 (1161)  
 Width--in. (mm) .....24.7 (627.4)  
 Height--in. (mm) .....41.1 (1044)  
 Weight, dry--lb (kg).....1294 (587)  
 (Includes flywheel hsg., flywheel & electrics)  
 Center of Gravity Location  
     From Rear Face of Block (X-axis)--in. (mm) .14.5 (369)  
     Right of Crankshaft (Y-axis)--in. (mm) .....0.1 (3)  
     Above Crankshaft (Z-axis)--in. (mm) .....6.1 (154)  
 Max. Allow. Static Bending Moment at Rear  
     Face of Flywhl Hsg w/ 5-G Load--lb-ft (N•m) ..600 (814)  
 Thrust Bearing Load Limit (Forward)  
     Intermittent--lb (N).....900 (4003)  
     Continuous--lb (N) .....500 (2224)

### Air System

**Prime     Standby**

Max. Allowable Temp Rise--Ambient Air to  
     Engine Inlet--°F (°C)..... 15 (8) ..... 15 (8)  
 Maximum Air Intake Restriction  
     Dirty Air Cleaner--in.H<sub>2</sub>O (kPa)..... 25 (6.3) .....25 (6.3)  
     Clean Air Cleaner--in.H<sub>2</sub>O (kPa)..... 12 (3) ..... 12 (3)  
 Engine Air Flow--ft<sup>3</sup>/min (m<sup>3</sup>/min) ....523 (14.8) ..579 (16.4)  
 Intake Manifold Pressure--psi (kPa).....28 (190) .....30 (207)  
 Compress. Discharge Temp--°F (°C) 347(175) ...392 (200)  
 Max. Press. Drop Through  
     Charge Air Cooler--in.H<sub>2</sub>O (kPa) ... 52 (13) .....52 (13)  
 Max. Temp. Out of Charge Air Cooler @  
     77°F (25°C) Ambient Air--°F (°C)113\*(45\*) ... 113\*(45\*)

### Cooling System

**Prime     Standby**

Engine Heat Reject.--BTU/min (kW) ..5333(94) ..5726(101)  
 Air/Air Exchanger Heat Rejection--  
     BTU/min (kW) .....2134(37.5) .2692(47.3)  
 Coolant Flow--gal/min (L/min).....63 (240) ..... 63 (240)  
 Thermostat Start to Open--°F (°C).....180 (82) ..... 180 (82)  
 Thermostat Fully Open--°F (°C).....201 (94) ..... 201 (94)  
 Engine Coolant Capacity--qt (L) ..... 12 (11.3) .... 12 (11.3)  
 Min. Pressure Cap--psi (kPa) .....10 (69) ..... 10 (69)  
 Max. Top Tank Temp--°F (°C) .....221 (105) ...221 (105)  
 Min. Coolant Fill Rate--gal/min (L/min) ...3 (11) ..... 3 (11)  
 Min. Air-to-Boil Temperature--°F (°C) .117 (47) ..... 117 (47)

### Exhaust System

**Prime     Standby**

Exhaust Flow--ft<sup>3</sup>/min (m<sup>3</sup>/min).....1317(37.3) .1476(41.8)  
 Exhaust Temperature--°F (°C) .....927 (497) ..973 (523)  
 Maximum Allowable Back  
     Pressure--in.H<sub>2</sub>O (kPa) .....30 (7.5) ..... 30 (7.5)

### Electrical System

**12 Volt     24 Volt**

Min. Battery Capacity (CCA)--amp ..... 800.....570  
 Max. Allow. Start. Circ't Resist.--Ohm.. 0.0012.....0.002  
 Starter Rolling Current:  
     At 32 °F ( 0 °C)--amp..... 920.....600  
     At -22 °F (-30 °C)--amp ..... 1300.....700

### Fuel System

**Prime     Standby**

Fuel Injection Pump (Denso) .....HPCR ..... HPCR  
 Governor Regulation..... 5 % ..... 5 %  
 Governor Type .....Electronic .....Electronic  
 Total Fuel Flow--lb/hr (kg/hr).....158.5 (71.9) .170.2 (77.2)  
 Fuel Consumption--lb/hr (kg/hr) ....94.6 (42.9) .106.3 (48.2)  
 Maximum Fuel Transfer Pump  
     Suction--ft (m) fuel .....3 (0.9) ..... 3 (0.9)  
 Max. Fuel Inlet Temp.--°F (°C).....176 (80) ..... 176 (80)  
 Fuel Filter Micron Size @ 98 % Efficiency ...2 ..... 2

### Lubrication System

Data based on engine with oil pan option code ..... 1961

**Prime     Standby**

Oil Pressure  
     at Rated Speed--psi (kPa) ..... 45 (310) ..... 45 (310)  
 Oil Pressure at Low Idle--psi (kPa) .... 15 (105) ..... 15 (105)  
 In Pan Oil Temperature--°F (°C) ..... 228 (109) ... 230 (110)

### Performance Data

**Prime     Standby**

Rated Power--hp (kW) .....286 (213)..... 314 (234)  
 Rated Speed--rpm ..... 1800..... 1800  
 Low Idle Speed--rpm ..... 1400..... 1400  
 BMEP--psi (kPa) ..... 303 (2087).... 334 (2300)  
 Friction Power  
     @ Rated Speed--hp (kW) ..... 23 (17)..... 23 (17)  
 Altitude Capability--ft (m) ..... 10,000 (3000)  
 Ratio--Air : Fuel..... 23.7:1 ..... 22.5:1  
 Noise--dB(A) @ 1 m ..... NA..... NA

### Fuel Consumption -- lb/hr (kg/h)

**Prime     Standby**

25 % Power ..... 26.0 (11.8)..... 28.7 (13.0)  
 50 % Power ..... 48.1 (21.8)..... 52.9 (24.0)  
 75 % Power ..... 69.9 (31.7)..... 76.9 (34.9)  
 100 % Power ..... 94.6 (42.9).... 106.3 (48.2)

All values at rated speed and power with standard options unless otherwise noted.

\* Revised Data  
 Curve 6068HF4751800314..... Sheet 2 of 2  
 August 2004